

## ABSTRACT

- A system and method for automatically reducing noise for video encoding is disclosed. In a simplified embodiment, the system utilizes a video input module and a motion estimation unit. The video input module is capable of performing the steps of:
- 5 filtering noise from currently received video data; combining the filtered data, wherein the combining step is dependent upon a category of the noise; and providing a weighted average of a current field derived from the combined filtered data and a prior field, wherein the prior field is derived from previously combined and filtered data that has been previously stored, the weighted average being determined by pixel motion between the
  - 10 current field and the prior field. The motion estimation unit is capable of performing the steps of: separating a current video frame into multiple current regions of pixels and separating a prior video frame into multiple reference regions of pixels, wherein the prior video frame is derived from the previously stored data; and determining a first reference region within the multiple reference regions of pixels that is most like a selected current
  - 15 region within the multiple current regions of pixels, the determination being utilized to determine the noise.